

## References

- 1.Wilson JJ. & Furukawa M.(2014):** Evaluation of the patient with hip pain. Am Fam Physician. 89(1):27-34.
- 2.Kamal D., Trăistaru R. & Alexandru D.(2013):** Epidemiologic Study of Avascular Necrosis of the Femoral Head. Current Health Sciences Journal Vol. 39, No. 3: 169-74.
- 3.Kaushik AP., Das A., & Cui Q. (2012):** Osteonecrosis of the femoral head: An update in year 2012. World Journal of Orthopedics, 3(5), 49-57.
- 4.Weishaupt D., Exner G., Hilfiker P., et al.(2000):** Dynamic MR Imaging of the Hip in Legg-Calvé-Perthes Disease: Comparison with Arthrography. In AJR. 174:1635-37.
- 5.Beltran J., Patnana M., Beltran L., et al.(2002):** MRI of the hip. In Applied Radiology. 33-39.
- 6.Boutry N., Paul C., Leroy X., et al.(2002):** Rapidly destructive osteoarthritis of the hip: MR imaging findings. AJR Am J Roentgenol. 179:657-663.
- 7.McWalter P. & Hassan A. (2009):** Transient osteoporosis of the hip. Annals of Saudi Medicine, 29(2), 146-148.
- 8.Bos CF., Bloem JL., Obermann WR., et al (1988):** Magnetic resonance imaging in congenital

dislocation of the hip. J Bone Joint Surg 70:174-178

- 9. Druschel C., Placzek R., Selka L., et al.(2013):** MRI evaluation of hip containment and congruency after closed reduction in congenital hip dislocation. In Hip Int. 23(6): 552 - 559.
- 10. Lee MC. & Eberson CP.(2006):** Growth and development of the child's hip. Orthop Clin North Am. ;37(2):119-32.
- 11. Karl JJ. & Davies AM.(2006):** Congenital and Developmental Abnormalities, In Davies A.M., Johnson K., Richard W. et al. First edition. Imaging of the Hip & Bony Pelvis; Techniques and Applications. Springer. pp. 93-104.
- 12. Ludwig O., Pierre B. & Herman J.(2003) :** The Hip In a System of Orthopaedic Medicine, edited by Ludwig O., Pierre B. and Herman j. 7th edition. Churchill Livingstone Publishers London.; 16:716-41.
- 13. Williams A., Newell RLM., Davies S., et al.(2005):** The pelvic girdle and lower limb. In: Standring S, editor. 39 edition Grays Anatomy Churchill Livingstone Publishers, Elsevier, Philadelphia.; 110: 1399-1419.

- 14. Drake R., Vogl AW. & Mitchell A. (2013):** Gray's anatomy for students. Third edition. El Sevier, pp. 535-672.
- 15. Carol LA.(2000):** Evaluation of the Marrow Space in the Adult Hip. RadioGraphics; 20:S27-S42
- 16. Williams PL., Bannister LH., Berry MM., et al. (2000):** Skeletal System In Gray's Anatomy, edited by Jomaah N. and Laredo JD. 38th ed. New York: Churchill Livingstone.; 55. 425-736.
- 17. David W., William JM. & James MG.(2004):** The Hip. In Diagnostic Imaging Orthopaedics,. 1st edition, A Medical Reference Publishing Company, Canada.; Section 4, pp. 98.
- 18. Adam G. & Michael W.(2002):** The lower limb pelvic girdle and proximal femur. In Orthopedic Radiology, edited by AdamG. and Michael W., 3rd edition Lippincott Williams & Wilkins Publishers, Philadelphia.; Section 9, 197-227.
- 19. Carol J., Shella F., Jonathan A. et al.(2003):** The hip. In Essential Musculoskeletal Imaging, edited by Lee B., Mark DS., John H. et al. 1st edition. Churchill Livingstone Publishers, Philadelphia.; Section 2, 527-98.
- 20. Keith LM. & Arthur FD.(2005):** Anatomy of the lower limb. In Clinically Oriented Anatomy, edited by Keith LM. and Arthur FD. 5<sup>th</sup> edition. Lippincott

Williams & Wilkins Publishers, New York.; Section 3, 573-605.

- 21. Zlotorowicz M. & Czubak J. (2014):** Vascular Anatomy and Blood Supply to the Femoral Head. in Osteonecrosis, pp.19-25 .
- 22. Chung SMK. (1976):** The arterial supply of the developing proximal end of the human femur. J Bone Joint Surg Am 1976; 58(7):961-70.
- 23. Jones JP. (2000):** Etiology and pathogenesis of osteonecrosis. Sem Arthroplasty.; 2: 160-180.
- 24. Graaff VD. (2001):** Human Anatomy, Sixth Edition pp:166-219. Wilson J&, Furukawa M. : Evaluation of the patient with hip pain. Am Fam Physician. 2014 Jan 1;89(1):27-34.
- 25. William BM. & Timothy GS. (2008):** Imaging of the hip and pelvis. In first edition. Problem Solving in Musculoskeletal Imaging. Mosby/Elsevier, Chapter 11, pp. 509-564.
- 26. Lim SJ. & Park YS. (2015):** Plain Radiography of the Hip: A Review of Radiographic Techniques and Image Features. Hip & Pelvis, 27(3), 125-134.
- 27. Nestorova R., Vlad V., Petranova T., et al.(2012):** Ultrasonography of the hip. In Medical Ultrasonography, 14 (3): 217-24.

- 28. Verbeeten KM., Hermann KL., Hasselqvist M., et al (2005):** The advantages of MRI in the detection of occult hip fractures. *Eur Radiol* 15(1):165-169.
- 29. David WS., Thomas GS., & Miriam AB. (2007):** The Hip. In David W. Stoller. Third edition. *Magnetic resonance imaging in orthopedics & sports medicine*. Lippincott Williams & Wilkins. Pp: 42-304.
- 30. Aldridge JM. 3<sup>rd</sup> & Urbaniak JR.(2004):** Avascular necrosis of the femoral head: Etiology, pathophysiology, classification, and current treatment guidelines. *Am. J. Orthop.* (Belle Mead NJ);33(7):327-32.
- 31. Vande Berg BC., Malghem J., Lecouvet FE., et al. (2001):** Magnetic resonance imaging and differential diagnosis of epiphyseal osteonecrosis. *Semin Musculoskelet Radiol.* ;5:57-67.
- 32. Alshahrani H. & Wood GCA.(2016):** Treatment of Avascular Necrosis of the Femoral Head with Bone Graft and Interference Screw. *MOJ Orthop Rheumatol*; 4(6): 00159
- 33. Takatori Y. & Ninomiya S.(2003):** Avascular necrosis of the femoral head. Natural history and magnetic resonance imaging. *J Bone Joint Surg. Br.*; 75(2): 217-21.

- 34. Kawashima M., Torisu T., Hayashi K., et al.(2002):**  
Pathological review of osteonecrosis in divers.  
Clin Orthop.; (130): 107-17.
- 35. Manenti G., Altobelli S., Pugliese L., et al.(2015):**  
The role of imaging in diagnosis and management  
of femoral head avascular necrosis. Clin Cases  
Miner Bone Metab.12 (Suppl 1):31-8.
- 36. Sugano N., Takaoka K., Ohzono K., et al.(1994):**  
Prognostication of nontraumatic avascular  
necrosis of the femoral head. Significance of  
location and size of the necrotic lesion. Clin  
Orthop.(303):155-64.
- 37. Malizos KN., et al. (2007):** Osteonecrosis of the  
femoral head: Etiology, imaging and treatment.  
European Journal of Radiology (63) 16-28.
- 38. Pavelka K.(2000):** Osteonecrosis. *Baillieres Best Pract  
Res Clin Rheumatol.* 14(2):399-414. [Medline].
- 39. James R. & Michael J.(2012):** Femoral head  
fractures. *Musculoskelet Med*; 5:199-205
- 40. Thomas P. & Hans LB.(2008):** Imaging of the  
*Musculoskeletal System*; Chapter 22 page 290.
- 41. David P. (2010):** Slipped Capital Femoral Epiphysis:  
Diagnosis and Management *Am Fam Physician.*  
1;82(3):258-62.

- 42. Donald R. & Thomas GG. (2005):** Traumatic Diseases; Physical Injury: Concepts and Terminology. In Donald Resnick, Mark J. Kransdorf. 3rd edition. Bone and joint imaging. Elsevier. pp. 789-830.
- 43. Raymond TM. & Stuart LW.(2006):** Legg-Calve-Perthes Syndrome. In 6th Edition Lovell & Winter's Pediatric Orthopaedics; 1038-85.
- 44. Tripathy S. & Sen R. (2010):** Legg-calve-perthes Disease Current Concepts. Web. med. Central Orthopaedics;1(11).
- 45. Blumhagen J.(1994):** Legg-Calve-Perthes disease. In: Hilton SW, Edwards DK, eds. Practical Pediatric Radiology.2nd ed. Philadelphia:. WB Saunders Co.:485-96.
- 46. De Sadeleer C., Audiens H., de Boeck H., et al. (1994):** Legg-Perthes disease: partial or total loss of femoral head? Contribution of SPECT images. *Clin Nucl Med.* 19(9):830-1.
- 47. Steinberg ME. (1997):** Avascular necrosis: diagnosis, staging, and management. *J Musculoskel Med.* 14(11):13-25.
- 48. Chan KL. & Mok CC. (2012):** Glucocorticoid-Induced Avascular Bone Necrosis: Diagnosis and management. *The Open Orthopaedics Journal*, 6, 449-457.

- 49. Lavernia CJ. , Sierra RJ. & Grieco FR.(1999):**  
Osteonecrosis of the femoral head. J Am Acad  
Orthop Surg. 7(4):250-61.
- 50. Boechat MI., Winters WD., Hogg RJ, et al. (2001):**  
Avascular necrosis of the femoral head in children  
with chronic renal disease. Radiology. 218(2):411-  
3.
- 51. Michalecki L., Gabrys D., Kulik R. et al. (2011):**  
Radiotherapy induced hip joint avascular necrosis  
—two cases report. Rep Pract Oncol  
Radiother. ;16:198-201
- 52. Okane JW.(2000):** Anterior hip pain. American family  
physician, ; 14(5): 81-99.
- 53. Berendt T. &Byren I.(2004):** Bone and joint infection.  
Clin. Med.; Nov.-Dec., 4(6): 510-18.
- 54. Satomi N. &Motoki S.(2011):** Seasonal Trends in the  
Incidence of Hip Osteoarthritis in Japanese  
Patients. The Open Orthopaedics Journal. 5, 134-  
37
- 55. Landewe R. & Heijde D.(2005):** Radiographic  
progression in rheumatoid arthritis. The  
Netherlands. Clin. Exp. Rheumatol.; Sep-Oct.,  
23(39): 63-68.
- 56. Zizic TM., Hungerford DS. & Stevens MB.(2002):**  
Ischemic bone necrosis in systemic lupus



- erythematosus. II. The early diagnosis of ischemic necrosis of bone. *Medicine*;59(2):134-42.
- 57. Andrea SD. & Paul B. (2009):** Imaging Investigation of Arthritis in Children. In Barbara N. Weissman. *Imaging of Arthritis and Metabolic Bone Disease*. Elsevier. pp 428-56.
- 58. Karagkevrekis CB. & Ainscow DA.(1998):** Transient osteoporosis of the hip associated with osteogenesis imperfecta. *J Bone Joint Surg Br. ;80(1):54-5*.
- 59. Domachevsky L.& Keynan Y. (2004):** Transient osteoporosis associated with hyperhomocystinemia: a possible role for hyperbaric oxygen therapy. *Undersea Hyperb. Med. ;31(3):275-9*.
- 60. Stephen KS. & David LS.(2006):** Developmental Dysplasia of the Hip. *Am Fam Physician ;74:1310-16*
- 61. Boaz KK. & Richard BG. (2009):** ACR Appropriateness Criteria on Developmental Dysplasia of the Hip-Child. *J Am Coll Radiol. ;6(8):551-57*.
- 62. John DR. (2006):** Hip joint In: Edelman RR. Et al. *Clinical magnetic resonance imaging 3rd ed* Philadelphia, Pa: Saunders Elsevier. pp 3366-99.

- 63. Clyde AH., et al.(2009):** Basic principles of musculoskeletal MRI. In: second edition. Musculoskeletal MRI. WB Saunders company, Philadelphia, pp. 1 -19.
- 64. Torsten BM. & Emil R.(2003) :** MRI Parameters and Positioning. Thieme Stuttgart· New York.; 106-09.
- 65. Eva L., Pilar F., et al.(2008):** Pelvis-Hip: Technical Aspects, Normal Anatomy, Common Variants, and Basic Biomechanics. In Thomas Lee Pope, Hans L. Bloem. et al. First edition. Imaging of the Musculoskeletal System. Saunders. pp 402-33.
- 66. Clyde AH., et al.(2009):** Hips and pelvis in: Musculoskeletal MRI 2nd ed. WB Saunders company, Philadelphia, pp. 324 -51.
- 67. Sarah DB. (2014):** Overview of Diagnostic Imaging of Hip Joint. In Young-Jo Kim. Tallal Charles Mamisch. First edition. Hip Magnetic Resonance Imaging. Springer. pp 129-48.
- 68. Josef K., Gerhard L., et al. (2006):** MR and MR Arthrography. In A. M. Davies, K. Johnson et al. first edition. Imaging of the Hip & Bony Pelvis Techniques and Applications. Springer. pp 31-48.
- 69. Theysohn JM., Kraff O., Theysohn N., et al.(2014):** Hip imaging of avascular necrosis at 7 Tesla compared with 3 Tesla. *Skeletal Radiol.* 43 (5):623-32.

- 70. Zilkens C., Miese F., Jager M., et al. (2011):**  
Magnetic resonance imaging of hip joint cartilage and labrum. *Orthopedic Reviews*, 3(2), e9.
- 71. Tripathi P., Singh S. & Khantal N.(2016):** Hip Pathology Findings on Magnetic Resonance Imaging: A Study from Tertiary Care Institute. *Int J Sci Stud.* ;4(3):35-38
- 72. Apostolos HK. & Eleni ED. (2011):** The role of MR imaging in avascular necrosis of the femoral head. *Semin Musculoskelet Radiol.* 2011 Jul;15(3):281-300.
- 73. Kaushik AP., Das A. & Cui Q.(2012):** Osteonecrosis of the femoral head: An update in year 2012. *World J Orthop* 2012; 3(5): 49-57.
- 74. Malizos KN., Karantanas AH., Varitimidis SE., et al. (2007):** Osteonecrosis of the femoral head: Etiology, imaging and treatment. *European Journal of Radiology* (63) 16-28.
- 75. Mont MA., Marulanda GA., Jones LC., et al. (2006):** Systematic analysis of classification systems for osteonecrosis of the femoral head. *J Bone Joint Surg Am* 88 Suppl 3:16-26.
- 76. Simone W. & Klaus W.(2014):** Measurements and Classifications in Musculoskeletal Radiology.; 39-42

- 77. Jonathan RD. & Ramiro JH.(2009):** MRI of Legg-Calvé-Perthes Disease. *AJR*; 193:1394-1407.
- 78. Viana SL. &Machado B. (2013):** Legg-Calvé-Perthes Disease (Chapter 7). in: First edition. Joint imaging in childhood and adolescence. Springer, Heidelberg; 195-236.
- 79. Weber MA., Merle C., Rehnitz C., et al.(2016):** Modern Radiological Imaging of Osteoarthritis of The Hip Joint With Consideration of Predisposing Conditions. *Fortschr Röntgenstr*; 188: 635-51.
- 80. Barbara NW. (2009):** Osteoarthritis. In Barbara N. Weissman. *Imaging of Arthritis and Metabolic Bone Disease*. Elsevier. pp 107-33.
- 81. Herwig I. (2006):** Arthritis 1: Hip. In A. M. Davies, K. Johnson. et al. First edition. *Imaging of the Hip & Bony Pelvis; Techniques and Applications*. Springer. pp. 283-98.
- 82. Nathalie B., et al. (2007):** Early Rheumatoid Arthritis: A Review of MRI and Sonographic Findings. *AJR*; 189:1502-1509.
- 83. José AN. (2010):** MR Imaging of Early Rheumatoid Arthritis. *RadioGraphics*; 30:143-165.
- 84. Michael AB. (2009):** MRI In Rheumatoid Arthritis. In Michael A. Bruno, timothy J. mosher. et al. First edition. *Arthritis in Color: advanced imaging of arthritis*. Saunders. Philadelphia, PP 123-36.

- 85. Manaster BJ., May DA. & Disler DG. (2007):**  
Osteoporosis. In .-3rd edition. Musculoskeletal  
imaging. Mosby, Inc. pp 391-96.
- 86. Vande Berg BC., Lecouvet FE., Maldague B., et al.  
(2006):** Osteonecrosis and Transient  
Osteoporosis of the Femoral Head, In A. M.  
Davies, K. Johnson. et al. First edition. Imaging of  
the Hip & Bony Pelvis; Techniques and  
Applications. Springer. pp. 195-216.
- 87. Curtis WH., William FC., et al. (1993):** MR Imaging  
of Bone marrow edema pattern transient  
osteoporosis-transient bone marrow edema  
syndrome or osteonecrosis. RadioGraphics .  
13:1001-1011.
- 88. Luis SB., Zehava SR., et al.(2013):** Imaging  
Evaluation of Developmental Hip Dysplasia in the  
Young Adult AJR ; 200:1077-88.
- 89. Starr V. & Bo YH.(2014):** Imaging update on  
developmental dysplasia of the hip with the role of  
MRI. AJR; 203:1324-35.
- 90. Mayumi Oka. & Johnny UVM.(2004):** Prevalence and  
Patterns of Occult Hip Fractures and Mimics  
Revealed by MRI. AJR ;182:283-288.
- 91. Takuaki Y.(2012):** Subchondral Insufficiency  
Fractures of the Femoral Head Clinics in  
Orthopedic Surgery ;4:173-80.

- 92. José MM., Ana MH., et al.(2008):** Acute Osseous Injury to the Hip and Proximal Femur. In Thomas Pope, Hans L. Bloem et al. first edition. Imaging of the Musculoskeletal System. Saunders. Philadelphia, pp 470-98.
- 93. Jeffrey JN. & Young JK.(2014):** Developmental Hip Disorders. In Young-Jo Kim. Tallal Charles Mamisch. First edition. Hip Magnetic Resonance Imaging. Springer. pp 95-112.
- 94. Jaimes C., Chauvin NA., Delgado J., et al.(2014):** MR imaging of normal epiphyseal development and common epiphyseal disorders. Radiographics;34(2):449-71.
- 95. Nori M., Marupaka SK., Alluri S., et al. (2015):** MRI Evaluation of Post Core Decompression Changes in Avascular Necrosis of Hip. Journal of Clinical and Diagnostic Research : 9(12), p. 4-8.
- 96. Horia B., Valentin C. & Mihaela D.(2009):** Avascular necrosis of the femoral head. journal of clinical medicine, volume 4 No.1: 26-34.
- 97. Hamilton TW., Goodman SM., & Figgie M. (2009):** SAS Weekly Rounds: Avascular Necrosis. HSS Journal, 5(2), 99-113.
- 98. Manenti G., Altobelli S., Pugliese L., et al.(2015):** The role of imaging in diagnosis and management of femoral head avascular necrosis. Clinical Cases

in Mineral and Bone Metabolism, 12(Suppl 1), 31-38.

- 99. Glickstein MF., Burk DL., Schiebler ML., et al. (1988):** Avascular necrosis versus other diseases of the hip: sensitivity of MR imaging. Radiology. 169 (1): 213-5.
- 100. Steinberg ME., Hayken GD, Steinberg DR.(1995):** A quantitative system for staging avascular necrosis. J Bone Joint Surg Br. 77:34-41.
- 101. Tripathy SK., Goyal T., & Sen RK. (2015):** Management of femoral head osteonecrosis: Current concepts. Indian Journal of Orthopaedics, 49(1), 28-45.
- 102. Doré D., de Hoog J., Giles G., et al (2012):** A longitudinal study of the association between dietary factors, serum lipids, and bone marrow lesions of the knee. Arthritis Research & Therapy, 14(1), R13.
- 103. Teichtahl AJ., Wang Y., Smith S., et al. (2014):** Structural changes of hip osteoarthritis using magnetic resonance imaging. Arthritis Res Ther. 16:466.
- 104. Xu L., Hayashi D., Roemer FW., Felson DT., et al. (2012):** Magnetic Resonance Imaging of Subchondral Bone Marrow Lesions in Association

- with Osteoarthritis. *Seminars in Arthritis and Rheumatism*, 42(2), 105-118.
- 105. Boutry N., Khalil C., Jaspert M., et al.(2007):**  
Imaging  
of the hip in patients with rheumatic disorders.  
*Eur J Radiol.* 63(1):49-58.
- 106. Jacobson JA., Girish G., Jiang Y., et al.(2008):**  
Radiographic evaluation of arthritis: degenerative  
joint disease and variations.  
*Radiology.* 248(3):737-47
- 107. McQueen FM. (2000):** Magnetic resonance imaging  
in early inflammatory arthritis: what is its role?.  
*Rheumatology (Oxford).* 39(7):700-6.
- 108. Braun HJ. & Gold GE. (2012):** Diagnosis of  
Osteoarthritis: Imaging. *Bone*, 51(2), 278-288.
- 109. Van WK., Pritchard P., & Taylor JA. (2013):**  
Transient osteoporosis of the hip: A case  
report. *The Journal of the Canadian Chiropractic  
Association*, 57(2), 116-122.
- 110. McWalter P., & Hassan A. (2009):** Transient  
osteoporosis of the hip. *Annals of Saudi  
Medicine*, 29(2), 146-148.
- 111. Mirza R., Ishaq S. & Amjad H.( 2012 ): Transient  
osteoporosis of the hip. *J Pak Med Assoc.*  
**Feb;62(2):196-8.****



- 112. Balakrishnan A., Schemitsch EH., Pearce D., et al. (2003):** Distinguishing transient osteoporosis of the hip from avascular necrosis. *Canadian Journal of Surgery*, 46(3), 187-192.
- 113. Karchevsky M., Schweitzer ME., Morrison WB., et al.(2004):** MRI findings of septic arthritis and associated osteomyelitis in adults. *AJR Am J Roentgenol*. 182(1):119-22.
- 114. Learch TJ. & Farooki S. (2006):** Magnetic resonance imaging of septic arthritis. *Clin Imaging* ; 24:236 -242 .
- 115. Sherwani P., Vire A., Anand R., et al.(2016):** Utility of MR Imaging in Developmental Dysplasia of Hip. *Austin J Radiol*. 3(3): 1052.
- 116. Evan JZ., Edward YL., Ricardo R., et al.(2013):** Hip Disorders in Children *AJR*. 201:W776-W796.
- 117. Jaramillo D., Galen TA., Winalski CS., et al. (1999):** Legg-Calvé-Perthes disease: MR imaging evaluation during manual positioning of the hip—comparison with conventional arthrography. *Radiology*. 212:519-25.
- 118. Dwek JR.(2009):** The hip: MR imaging of uniquely pediatric disorders. *Magn Reson Imaging Clin N Am*. 17(3):509-20.
- 119. Lahdes VT., Lamminen A., Merikanto J., et al. (1997):** The value of MRI in early Perthes'

disease: An MRI study with a 2-year follow-up.  
Pediatr Radiol. 27(6):517-22.

- 120. Staatz C., Honnef D., Kochs A., et al.(2007):**  
Evaluation of femoral head vascularization in  
slipped capital femoral epiphysis before and after  
cannulated screw fixation with use of contrast-  
enhanced MRI initial results. Eur Radiol.  
17(1):163-8.
- 121. Green DW., Reynolds RAK., Khan SN., et al.**  
**(2005):** The Delay in Diagnosis of Slipped Capital  
Femoral Epiphysis: A Review of 102 Patients. HSS  
Journal, 1(1), 103-106.
- 122. Propeck T. & Ridpath CA.(2001):** Slipped capital  
femoral epiphysis diagnosed by magnetic  
resonance imaging. Emergency Radiology. 8: 344-  
46.
- 123. Dillon JE., Connolly SA. & Connolly LP. (2009):**  
MR Imaging of Congenital/Developmental and  
Acquired Disorders of the Pediatric Hip and  
Pelvis. Magnetic Resonance Imaging Clinics of  
North America, 13: 55-80.
- 124. Anand A., RaviRaj A. & Kodikal G. (2010):**  
Subchondral stress fracture of femoral head in a  
healthy adult. Indian Journal of  
Orthopaedics, 44(4), 458-60.

- 125. Kimura T., Goto T., Hamada D., et al.(2016):**  
Subchondral Insufficiency Fracture of the  
Femoral Head Caused by Excessive Lateralization  
of the Acetabular Rim. Case Reports in  
Orthopedics, vol. 2016, Article ID 4371679, 5  
pages.
- 126. Hiren P. & Atul FK. (2016):** Subchondral  
Insufficiency Fracture of the Femoral Head  
treated with Core Decompression and Bone Void  
Filler Support. Arch Bone Jt Surg. 4(3): 264-68.
- 127. Ikemura S., Yamamoto T., Motomura G., et al.  
(2010):** MRI evaluation of collapsed femoral  
heads in patients 60 years old or older:  
differentiation of subchondral insufficiency  
fracture from osteonecrosis of the femoral  
head. AJR Am J Roentgenol. 195(1):W63-W68.

